

A New Species of *Schoenoplectus* Sect. *Actaeogeton* (Cyperaceae)

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A new species, *Schoenoplectus gemmifer* C.Sato, T.Maeda & Uchino, is described and illustrated from Kyushu, Japan. It is distinguished from *S. mucronatus* (L.) Palla and *S. triangulatus* (Roxb.) Soják by the linear leaf blades, 2 stigmas and gemma.

Key words: Cyperaceae, new species, proliferation, *Schoenoplectus gemmifer*, *Schoenoplectus* sect. *Actaeogeton*.

Schoenoplectus (Rchb.) Palla sect. *Actaeogeton* (Rchb.) J.Raynal is characterized by tufted culms nodeless above base, inflorescences; a capitate cluster of spikelets, involucre bract usually solitary and greatly exceeding inflorescence; glumes with entire apex; smooth or often transversely rugose nutlets which are dark to blackish brown at maturity, and absence of basal flowers (Smith and Hayasaka 2002). The section is most diverse in East Asia, with *S. mucronatus* (L.) Palla as the type species, and Smith and Hayasaka (2001) provisionally included 14 species from East Asia and North America in the section.

One of the authors collected plants of the section in Aso district of Kyushu, Japan (Sato and Imae 1990), which resemble both *S. mucronatus* and *S. triangulatus* in having tufted, trigonous culm and trigonous involucre bract (Fig. 1). However, our close examination suggests that the plants cannot be identified to either of the two species above, because they differ in both having 1) long, linear leaf blades fascicled on rhizomes and apex of floating culm (Figs. 1, 2); 2) two

stigmas and nutlets unequally biconvex, and 3) the ability to produce plantlets with linear leaf blades on the culm apex when they are submerged in streams. *Schoenoplectus mucronatus* and *S. triangulatus* have bladeless leaves, three stigmas and compressed trigonous nutlets, and only show weak vegetative proliferation.

The habitat and the habit of our plants are also unique enough to distinguish them from *S. mucronatus* and *S. triangulatus*. The plants are partly or almost wholly evergreen, usually growing in rills or streams, only rarely in still water. In contrast to this, *S. mucronatus* and *S. triangulatus* usually grow in shore of ponds or marshy places, and their culms wither in winter in Japan.

We, therefore, regard our plant as a new species, which is described below.

***Schoenoplectus gemmifer* C.Sato, T.Maeda & Uchino, sp. nov.**

Affinis *Schoenoplecto mucronato* (L.) Palla et *S. triangulato* (Roxb.) Soják, sed diversus ab his in qualitatibus sequentibus, idest, 1) habenti plerumque stigmata dualia,

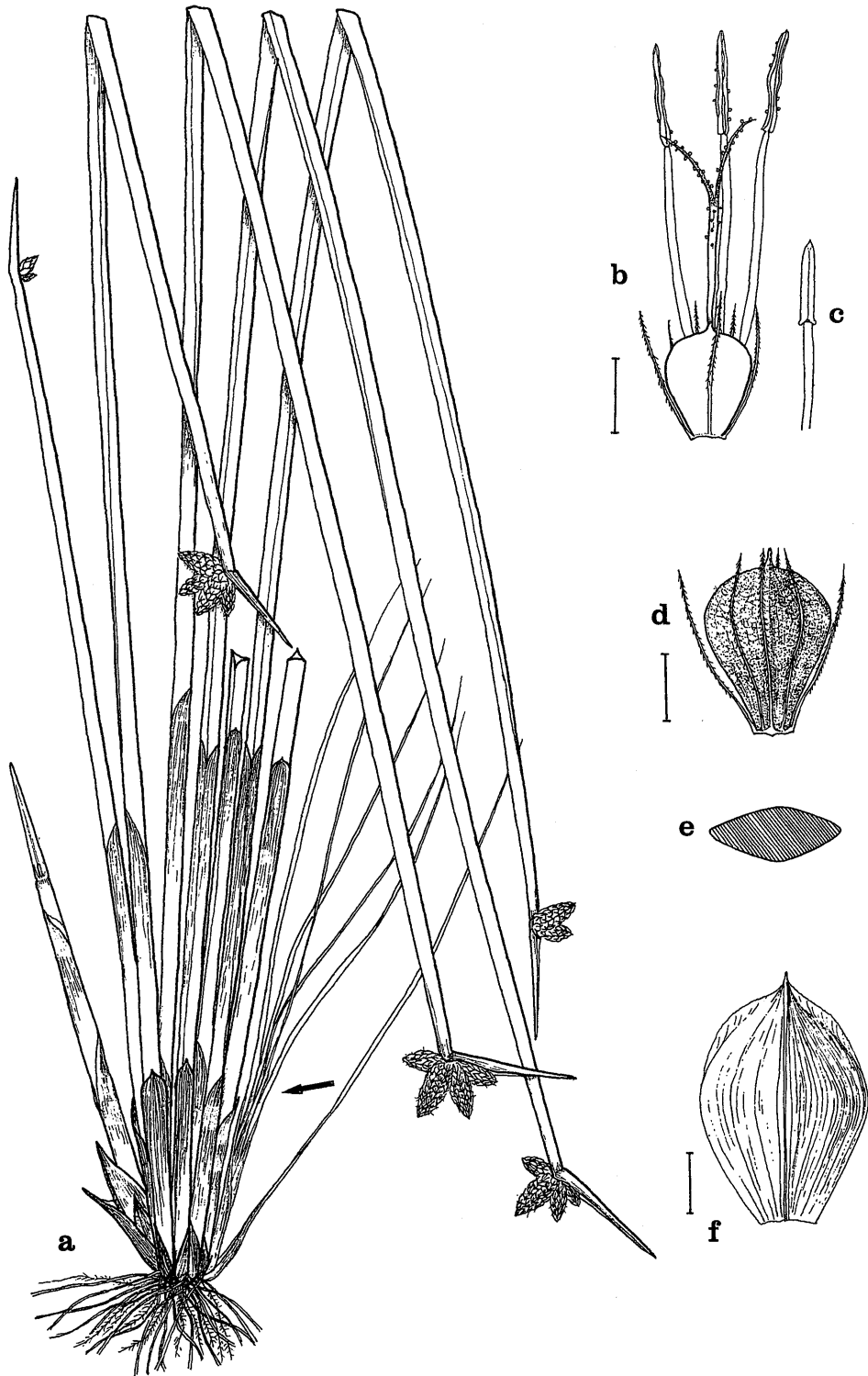


Fig. 1. *Schoenoplectus gemmifer* C.Sato, T.Maeda & Uchino with leaf fascicle (arrow). a: habit ($\times 0.6$), b: flower, c: upper part of stamen, d: nutlet with perianth segments, e: cross-section of nutlet, f: glume. Scale bars = 1 mm. All drawn from C. Sato 3385 (Isotype).

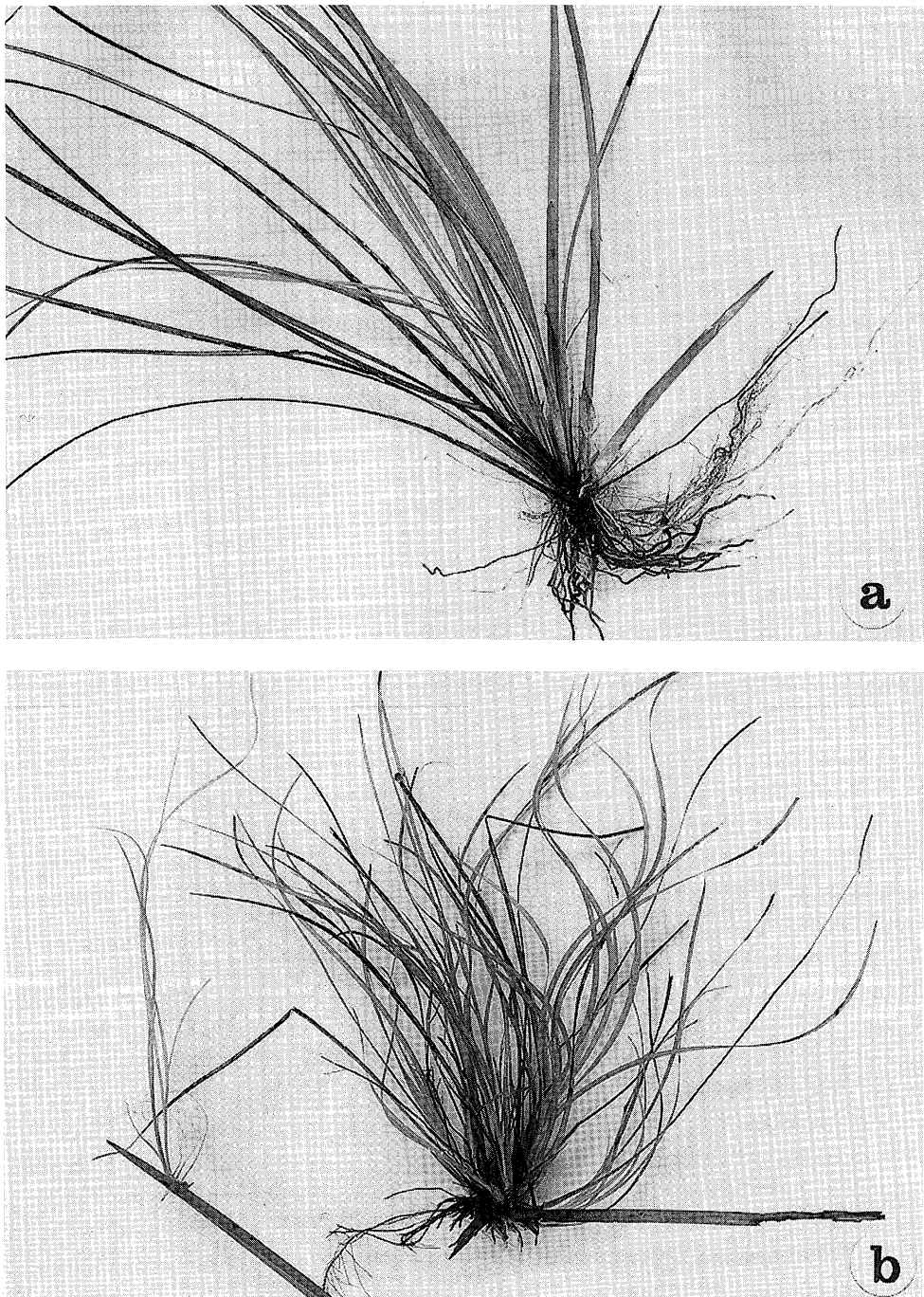


Fig. 2. Bladed leaves on the rhizome (a) and the apex of culm (b) of *Schoenoplectus gemmifer* ($\times 0.4$). Collected from type locality. Photo on 16 Aug. 2001.

2) germinanti prominenter acipibus fluitantibus culmis, 3) efficienti folia laminatos genmmas foliisque fasciculatis super rhizomatibus, 4) habitanti loco flumieno et sempervirenti.

Perennial. Rhizomes short, horizontal or ascending, rarely erect, sometimes branched. Culms erect when emergent or often floating in running water, densely or loosely tufted, tightly arranged in a row, trigonous, angles sharp, sides concave, deep- to yellowish green, 40–100 cm tall, 3–8 mm wide in middle, nodeless above base, the floating ones frequently budded on the apex. Leaves basal, usually reduced to a bladeless sheath, 2–3, sometimes 4–6 at juvenile culms, membranous; the lowest one scale-like or closed, pale blackish yellow to pale blackish brown, 8–18 mm long, the next one closed, tightly surrounding culm or sometimes loosely at mouth, the uppermost one closed, tightly surrounding culm, up to 14 cm long, sheaths other than the lowest one mouth oblique, acute or rounded and mucronate at tip, whitish pale green to green; fascicled leaves on rhizomes and apex of floating culms bladed, 6–12, linear, 15–55 cm long, 1–3 mm wide at base, flattened, flaccid, light to deep green, submerged and more or less floating. Inflorescence pseudolateral, single head with 3–11 spikelets radially arranged, 1–2.5 cm across; involucre bract solitary, culm-like, trigonous, angles sharp, sides concave, erect or obliquely bent at base when fruiting, 1.8–7.0 cm long, sometimes shallowly 1-furrowed in front, tapered toward acutish apex. Spikelets sessile, ovoid to narrowly ovoid, sometimes obscurely angular, 7–15 mm long, 3–7 mm wide, base rounded, apex acute to obtuse, densely many-flowered. Glumes ovate or oval, thick-membranous, boat-shaped, 3.5–5.2 mm long, 1.7–3.2 mm wide, yellowish green or yellowish brown later, faintly many-nerved, midrib fresh green to yellowish green, apex entire, rounded or subacute with a short green

mucro. Stamens 3; filaments flattened, ribbon-like, anthers narrowly oblong, 1.0–1.9 mm (mostly 1.2–1.7 mm) long, light yellow, connective apex acute. Style straight, slender, flattened, 1.3–3.1 mm long; stigmas mostly 2 or rarely 3, filiform, minutely papillate. Perianth segments 3–8 (mostly 5–7), bristle-like, 2–3 mm long, slightly longer than or almost as long as nutlet, yellowish brown, retrorsely spinulose. Nutlets broadly obovate, unequally biconvex or sometimes plano-convex, 1.7–2.6 mm long, 1.2–2.1 mm wide, blackish brown when mature, glossy, transversely wrinkled, base cuneate, apex rounded and abruptly contracted into beak.

Japanese name: Hatabe-kangarei (nov.).

TYPE: Japan, Kyushu, Kumamoto Pref., Aso-gun, Oguni-machi, Nagare-shitsugen, 15 Aug. 2001, C. Sato 3385 (TUS–holo; KYO, TI, TNS–iso).

Other specimens examined (Fig. 3). **JAPAN.** **Honshu.** Kanagawa Pref.: Hakone-machi, Sengokuhara, 1 Sep. 1990, T. Katsuyama s.n. (KPM 118803); Kyoto Pref.: Kameoka-shi, Sogabe-cho, Anao, 4 Oct. 1988, T. Takahashi 1046 (KYO); Tochigi Pref.: Utsunomiya-shi, Tochikubo, 2 Jul. 1956, M. Furuse s. n. (KPM 53431); Toyama Pref.: Daimon-machi, Asai, 30 Aug. 1993, M. Ohta s. n. (KYO); Yamaguchi Pref.: Abu-gun, Asahi-mura, 28 Oct. 2000, C. Sato 3379 (TUS); Tokuyama-shi, Nagaho, alt. 350 m, 6 Oct. 1996, Y. Koga 12473 (TUS). **Shikoku.** Ehime Pref.: Minamiuwa-gun, Mishiyo-cho, Hirajyo, 9 Sep. 2001, M. Hyodo 9443 (TUS); Minamiuwa-gun, Mishiyo-cho, Hirajyo, Hutsusaki-gawa, 15 Oct. 1922, M. Ogata s. n. (KYO); Onsen-gun, Shigenobu-cho, Sankason-izumi, 15 Aug. 1999, J. Oda 2185, 2186 (TUS, 2 sheets of 2186); Onsen-gun, Shigenobu-cho, Shimobayashi, Morinoki-izumi, 7 Nov. 1999, M. Hyodo 7881 (TUS 2 sheets). **Kyushu.** Fukuoka Pref.: Ukiha-gun, Ukihamachi, Niikawa, 15 Aug. 1982, Y. Koga s. n. (KYO); Kagoshima Pref.: Okuchi-shi, 20 Feb. 1935, S. Muramatsu 111 (KYO); Kumamoto Pref.: Aso-gun, Aso-machi, Yamada, 13 Sep. 2001, C. Sato 3381 (TUS, 2 sheets); Aso-gun, Minamioguni-machi, Senomoto, 15 Aug. 1991, C. Sato s. n. (KPM 77184); Aso-gun, Oguni-machi, Kamida, 29 Oct. 2001, C. Sato 3368 (TUS, 2 sheets); Hitoyoshi-shi, Onsen-machi, 26 Oct. 2001, C. Sato 3390 (TUS, 2 sheets); Hitoyoshi-shi, 26 Oct. 1960, K. Maebara 6652 (TNS 599973); Minamata-shi, Ishitobi, 13 Sep. 2001, C. Sato 3397

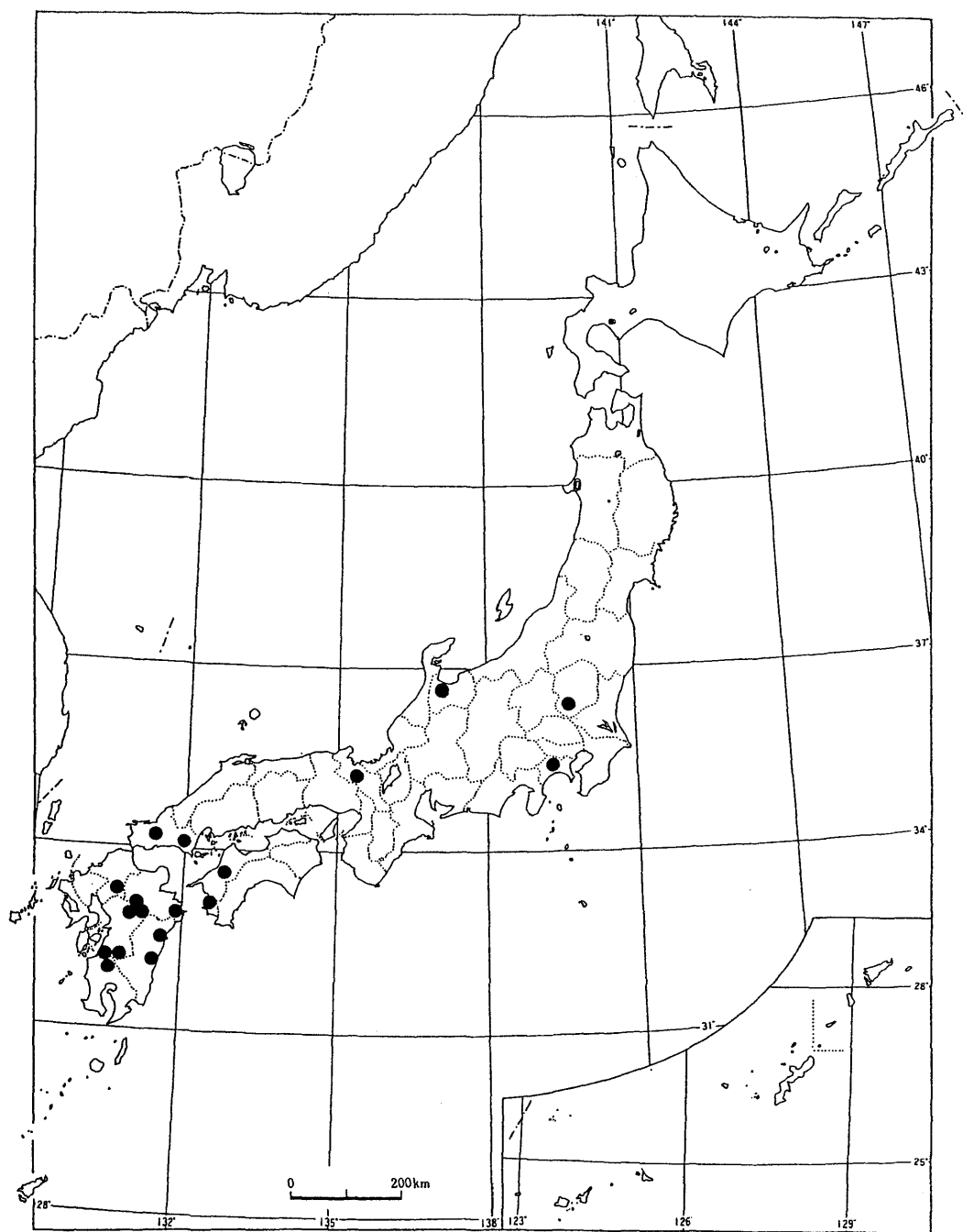


Fig. 3. Distribution of *Schoenoplectus gemmifer*.

(TUS, 3 sheets); Miyazaki Pref.: Higashiusuki-gun, Kitagawa-cho, Nagai, 27 Oct. 2001, C. Sato 3380 (TUS); Koyu-gun, Kawaminami-cho, 29 Aug. 1958, T. Nomura s. n. (TNS 599975); Oita Pref.: Saeki-shi, Kitachi, Kitachigawa River, 14 Apr. 2002, C. Sato 3384 (TUS, 2 sheets).

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佐藤千芳^a, 前田哲弥^a, 内野明徳^b: 日本産フトイ属 (カヤツリグサ科) の1新種

関東地方から九州にかけて分布するフトイ属の1新種 *Schoenoplectus gemmifer* C.Sato, T.Maeda & Uchino を記載した. この種はヒメカンガレイ *S. mucronatus* (L.) Palla とカンガレイ *S. triangulatus* (Roxb.) Soják に類似するが, 1) 柱頭の多くが2本であり, 2) 流水中に浮遊する稈の先端部からしばしば無性芽を生じ, 3) 稈先端部の無性芽および根茎上の束生葉に葉身のある葉を生じ, 4) 流

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水域に生育し常緑性である点で異なる. 和名ハタベカンガレイは最初の発見地にもとづく (「端辺カンガレイ」の意で, 端辺は熊本県阿蘇山北外輪山地域の総称). タイプ産地は, 熊本県阿蘇郡小国町流湿原.

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